

Work Order ID 141283

Wednesday, February 03, 2016 2:15:22 PM

141283

16.02.05
~~PRELIMINARY ISSUE~~ Page 1

Item ID: D4407-043 Accept *N900040100* Setup Start *NS1*
 Revision ID: ~~PRELIM~~ Stop *NS2*
 Item Name: Bar Weldment
 Start Date: 2/3/2016 Start Qty: 4.00 *4* Cust Item ID:
 Required Date: 2/4/2016 Req'd Qty: 4.00 *4* Customer:
 Reference:

Approvals: Process Plan: [Signature] Date: 6-2-3 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4407	pa1 <u>D</u> <u>16.02.05</u>

100		0.00							
100									
Cold Saw	Memo	0.00							
Hyd Mech	Cut blanks at 60.00" (EXTRA MATL WILL BE TRIM OFF AT D4406-043 ASSY)								

4 Q 16-2-5

110	Weld per dwg & QSI004 4.5	0.00							
110									
autoweld 1	Memo	0.00							
Automated Welding 1	***SEE NOTE 8 FOR SURFACE BUILDUP*** 1- WELD AS PER DWG AND QSI004 4.5 FOR AUTOMATED WELDING USE 8259 HARDCOAT BATCH: <u>1133202</u>								

4 Q 16-2-5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

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Wednesday, February 03, 2016 2:15:22 PM

Item ID: D4407-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: PRELIM Stop ***NS2***
 Item Name: Bar Weldment
 Start Date: 2/3/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 2/4/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC9- Inspect visual per QSI004- Fusion Welds	0.00				<i>f</i>			DAS 24 9-89
120								FEB 05 2016	
QC	Memo	0.00							
Quality Control									
130	QC5- Inspect part completeness to step on W/O	0.00				<i>f</i>			DAS 24 9-89
130								FEB 05 2016	
QC	Memo	0.00							
Quality Control									
140	Identify as per dwg & Stock Location: <i>w/o</i>	0.00							
140								<i>4 EL 16-2-5</i>	
Packaging	Memo	0.00							
Packaging	LOCATION: WA002								

POSITIVE RECALL

EFFECTIVE *162.3* AUTH *[Signature]*
 RELEASED _____ DATE _____

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 141283***141283***

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Wednesday, February 03, 2016 2:15:22 PM

Item ID: D4407-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: PRELIM Stop ***NS2***
Item Name: Bar Weldment
Start Date: 2/3/2016 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 2/4/2016 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.01							
Quality Control									

_____ **MCS** _____ **FEB 05 2016**

MCS **FEB 05 2016**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Wednesday, February 03, 2016 2:15:26 PM

Page 1

Work Order ID: 141283

141283

Parent Item: D4407-043

D4407-043

Parent Item Name: Bar Weldment

Start Date: 2/3/2016

Required Date: 2/4/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 15.11.16 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304B0.250x0.500

Purchased

No

f

1,127.210

19.36842

M304B0 250x0 500

12 16-2-4

304 BAR .250 x .500

Location

Loc Qty

Loc Code

MAT

18.909

133276

10.979

m133175

7.93

MAT009

604.3013

m129366

18.967

m131748

20.949

m132332

48.5333

m133121

12

m133417

132.685

m133526

47.167

m133596

144

m134099

180

WA002

504

m133923

504

24'

DQA: _____ Date: _____



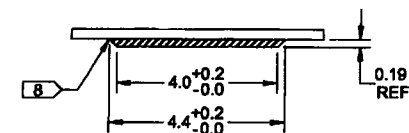
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

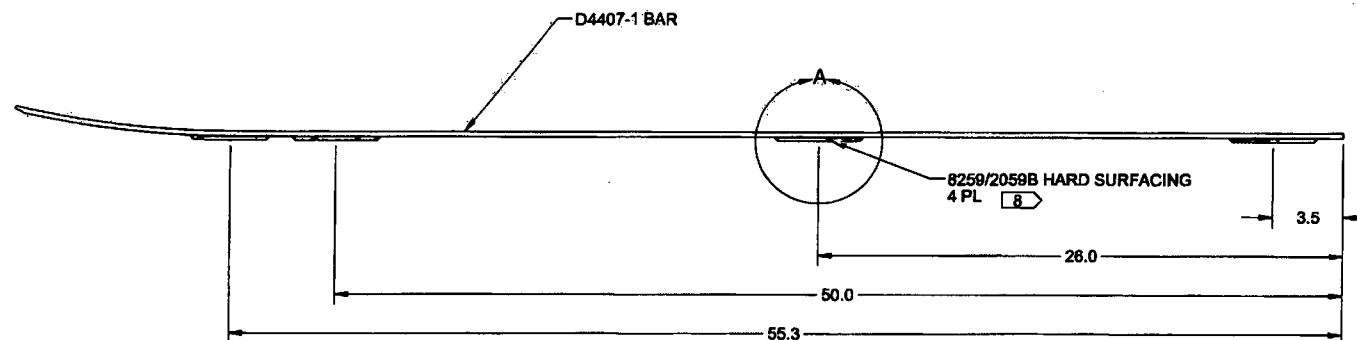
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4407-041	BAR WELDMENT
1	1	D4407-1	BAR
2	A/R	8259/2059B	HARD SURFACING



DETAIL A
4 PL
SCALE 2X



D4407-041 BAR WELDMENT

NOTES:

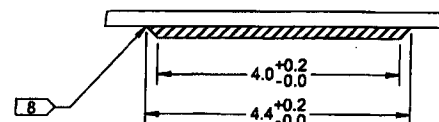
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 2.88 lbs
- 8) BUILDUP HARD SURFACING 0.18 - 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5 (AUTOMATED WELDING) OR BUILDUP HARD SURFACING 0.18 - 0.25 THICK USING 2059B ROD PER QSI 004 SECTION 4.1 (MANUAL WELDING)

D	ADD D4407-041/-043 WELDMENTS, RE-DESIGN D4407-1/-3, ADD NOTE 8 (SH 1.2 AUTOMATED WELDING), DELETE NOTE 8 (SH 384)	DB	15.10.13
C	REDESIGNED WITH SHORTER CUTS. NOTE 8 ADDED. B4-2, B4-3 0.18 WAS 0.13 (REF NCR12-2031)	AJS	13.03.11
B	REMOVE TOOLING HOLES FOR -1/-3; RE-DESIGN D4407-3	RF	12.01.30
A	NEW ISSUE	RF	11.08.15
REV.	DESCRIPTION	BY	DATE

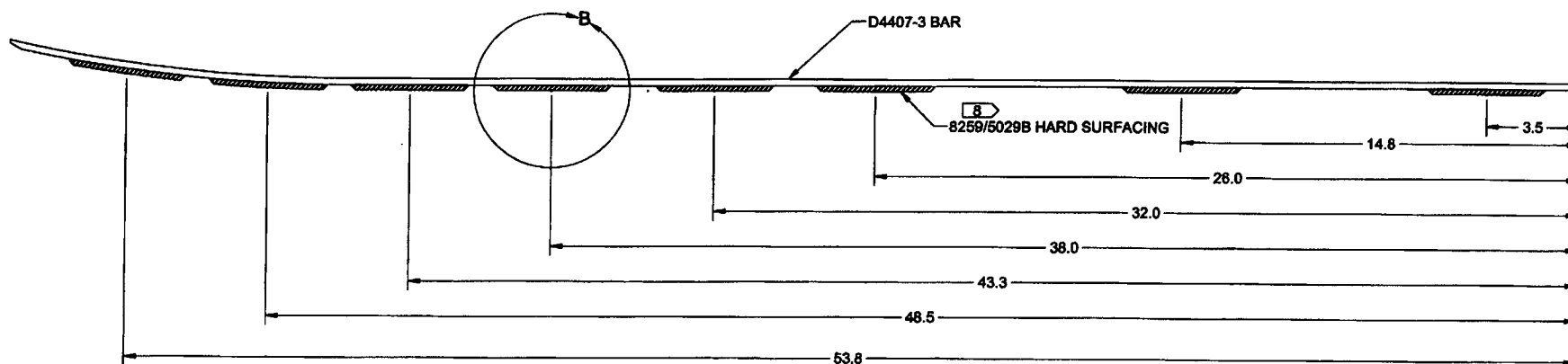
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	DD	D4407	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	BAR	NTS
DATE	15.10.13		

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ITEM	QTY -043	P/N	DESCRIPTION
	X	D4407-043	BAR WELDMENT
1	1	D4407-3	BAR
2	A/R	8259/2059B	HARD SURFACING



DETAIL B
 8 PL
 SCALE 2X



D4407-043 BAR WELDMENT

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 3.12 lbs
- 8) BUILDUP HARD SURFACING 0.18 - 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5 (AUTOMATED WELDING) OR BUILDUP HARD SURFACING 0.19 - 0.25 THICK USING 2059B ROD PER QSI 004 SECTION 4.1 (MANUAL WELDING)

RELEASED
 2016-02-04 **APPROVED**

DESIGN
DRAWN
CHECKED
MFG. APPR.
APPROVED
DE APPR.
DATE 15.10.13

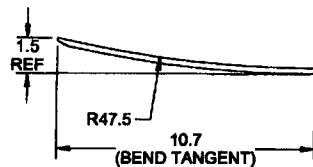
RF
DB
ML
DD
WM
DS

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA
DRAWING NO. **D4407**
REV. D
SHEET 2 OF 4
TITLE **BAR**
SCALE
NTS

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8 7 6 5 4 3 2 1

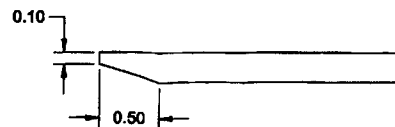
0.50 REF



D4407-1 BAR
(MAKE FROM D4407-1F) $\triangle$

66.10

D4407-1F BAR $\triangle$



DETAIL C
SCALE 6X

NOTES:

- 1) MATERIAL : AISI 304/316 STAINLESS STEEL BAR, 0.25 THICK X 0.50 WIDE PER ASTM A276 OR ASTM A240
REF. DART SPEC. M304B0.250X0.500
- 2) FINISH : NONE
- 3) TOLERANCES : PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS : INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES : 0.005 TO 0.010 MAX
- 6) IDENTIFICATION : NONE
- 7) WEIGHT : 2.38 lbs

RELEASED
2016-02-04

APPROVED

DESIGN
DRAWN
CHECKED
MFG. APPR.
APPROVED
DE APPR.
DATE

RF
DB
ML
DD
WM
DS-#

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA
DRAWING NO.
D4407
TITLE
BAR

REV. D
SHEET 3 OF 4
SCALE
NTS

15.10.13

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8 7 6 5 4 3 2 1

